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| REV:  | <b>ENGINEERING DATA REQUIREMENTS</b><br>(ATTACHMENT "A") |                       |
| NOTE: MILITARY SPECIFICATIONS I/STANDARDS WILL NOT BE FURNISHED IN THE BID SET.   |  |                       |
| 1. THE FOLLOWING INSTRUCTIONS ARE FURNISHED FOR THE MANUFACTURE OF<br><br>COLLAR, LOCK ACTUATOR - STRUT ASSY, MLG, ASSY OF  |  |                       |
| 2. PART NUMBER<br><br>4G11447-101A  | 3. NATIONAL STOCK NUMBER<br><br>1620 00 115 7389         |                       |
| 4. THE FOLLOWING SPECIFICATIONS/STANDARDS, ETC., WILL BE USED IN LIEU OF THE DATA INDICATED. THE SUPERSEDED DATA WILL NOT BE FURNISHED UNLESS SO INDICATED.   |  |                       |
| <p>a. Identify to meet drawing requirements and MIL-STD-130 with the following notes, in lieu of STP 63-001. Serial number shall be vibropeened, in the location indicated. If the drawing does not indicate a location, OO-ALC/LILE will provide S/N location instructions. Serialization of item shall be accomplished as follows: The serialization will begin with the CAGE of the contractor named on the contract, followed by a dash and the two (2) digit year of manufacture, followed a dash and a sequentially unique three (3) digit number. A contractor who receives numerous intermittent contracts will start serialization of item with the next number in sequence of the prior contract. If a contract produces more than 1000 items, the serial number should appear like this: "S/N 98747-02-001"</p> <p>b. Machine to meet drawing requirements per LAC 0701, in lieu of DS 30003.</p> <p>c. Magnetic particle inspection per ASTM E1444, in lieu of MIL-I-6868. Use fluorescent type, full wave direct current (FWDC), and wet continuous method. With the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be level II certified, with the inspection procedure developed by a level III, as specified in NAS-410.</p> <p>d. Penetrant inspect per ASTM E1417, Type I, Method B or C, Level 3 or 4, in lieu of STP 53-201. With the following acceptance/rejection criteria: NO DEFECTS ALLOWED. The intent of NO DEFECTS ALLOWED is that the inspection is conducted at the required sensitivity level and there shall be no indications allowed. The inspector performing the inspection shall be level II certified, with the inspection procedure developed by a level III as specified in NAS-410.</p> <p>e. Heat treat, normalize, stabilize, and anneal, to meet drawing requirements per SAE AMS-H-6875; in lieu of STP 54-006.</p> <p>f. Shotpeen to meet drawing requirements per AMS-S-13165, in lieu of STP 51-501.</p> <p>g. Wet assemble using TT-P-1757, in lieu of MIL-P-8585.</p> <p>5. Drilling, reaming, and honing to meet drawing specifications, using best shop procedures and the following notes in lieu of STP 51-410.</p> <p>a. High speed steel (HSS) drills shall be used to drill corrosion resistant steels.</p> <p>b. HSS reamers will be used for rough reaming, and final reaming of steels heat treated below 200 KSI. Carbide or premium grade hi-speed tipped reamers will be used for rough reaming of steels heat treated above 200 KSI.</p> <p>c. Honing stones shall be of 150 to 500 aluminum oxide grit with a medium-hard bond and preferably a multi-head stone. Heads with steel shoes or wipers shall not be used.</p> |  |                       |
| PREPARED BY<br><br>ORIN HATCH   | SYMBOL<br><br>LGMPM                                      | DATE<br><br>31 Jul 02 |

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| PART NUMBER  | NATIONAL STOCK NUMBER  |           |
| 4G11447-101A   | 1620 00 115 7389   |           |
| <p>d. Drilling shall never be used as a final machining operation. A minimum of 0.015 inch on diameter shall be left for final reaming. Holes shall be finished by reaming or boring. When jigs, fixtures, or bushings are not used for drilling holes larger than 1/4 inch, the holes will be piloted with a center drill. Chemical, electrical, or electrochemical hole producing methods shall not be used as a final surface producing method without prior approval from OO-ALC/LILE.</p> <p>e. Rough reaming, the reamer length shall be as short as consistent with required penetration. Final reaming, the diameter cut shall produce a hole that meets the requirements of the engineering drawing.</p> <p>f. Honing shall be used as a final operation where a surface finish better than 125 roughness height ratio is required, and cannot be produced by other means</p> <p>g. Carbide drills can be operated at higher speeds than HSS drills, but must be used with caution. They must not be used in dull or chipped condition.</p> <p>6. Install bushings per the following for sub zero shrinkage requirements.</p> <p>a. The bushing installation shall be accomplished in such a manner as to avoid damage to the finish on the I.D. of the housing into which the bushing is installed, or the finish on the O.D. of the bushing. Forced installation of sub-zero installation, such as the use of a press or hammer is not permitted, and is not acceptable. A small non-metallic hammer may be used to tap the bushing into alignment with the housing bore, or to seat the bushing.</p> <p>b. Prior to bushing installation, the parts and housing bore shall be cleaned with a solvent to remove all contamination.</p> <p>c. Liquid nitrogen shall be used for all sub-zero installations unless some other sub-zero coolant is specified, and approved by OO-ALC/LILE engineering. The soak time of the bushing in the liquid nitrogen shall be sufficient to allow the bushing to reach the same temperature as the coolant.</p> <p>d. The bushing shall be installed into the housing immediately upon removal from the coolant with an absolute minimum lost time. Trial runs shall be accomplished as necessary to minimize installation time, which should be in the order of about seven (7) seconds maximum.</p> <p>e. It may occasionally be necessary to heat the housing into which the bushing is to be installed, in addition to sub-zero cooling of the bushing. Detail parts in process, which do not have paint or sealant or other organic material applied prior to heating, the parts shall be heated by the use of radiant heat techniques, such as thermal blankets, infrared lamps etc; to the maximum temperature of 250 F. Temperature measuring devices shall be used to monitor heat and shall be located on areas of the part expected to reach maximum temperature. No scaling, oxidation, or corrosion shall be permitted.</p> <p>f. The shrunk part shall be installed into the housing bore which has received a wet coat of TT-P-1757, zinc chromate primer which has been brush applied. The primer shall be applied to the bushing outer surface and the housing bore prior to installation, so as to insure complete sealing of gaps between the housing bore and the installed bushing as evidenced by extruded primer around the entire periphery of both ends of the bushing.</p> |  |           |
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| PART NUMBER<br><br>4G11447-101A   | NATIONAL STOCK NUMBER<br><br>1620 00 115 7389                        |                       |
| <p>7. Material alloys and specifications:</p> <ul style="list-style-type: none"> <li>a. Use SAE AMS 4881, in lieu of AMS 4881. Or use SAE AMS 4590, in lieu of AMS 4590. (Ref. drawing 4G13609)</li> <li>b. Use SAE AMS 6427, in lieu of MIL-S-8699. (Ref. drawing 4G13781)</li> </ul> <p>8. Finish per the following in lieu of DS 30000, and finish codes C. CC, 17, 54, and 74-74.</p> <ul style="list-style-type: none"> <li>a. Cadmium plate per MIL-STD-870, or QQ-P-416 to meet drawing requirements Class 3, Type II. (code C)</li> <li>b. Cadmium-titanium plate per MIL-STD-1500, or SAE AMS 2419, to meet drawing requirements Class 2, Type II. (code CC)</li> <li>c. Primer wash is not required for the manufacture of this item. (code 17)</li> <li>d. One coat of epoxy primer per MIL-PRF-85582, Type I, Class C 2. (code 54). Alternate, One coat of epoxy primer per MIL-PRF-23377, Type I.</li> <li>e. Two coats of top coat per MIL-PRF-85285, Type I. (color white, No. 17925 per FED-STD-595). (code 74-74)</li> </ul> <p>9. The required forgings will be procured from the qualified forging source using the original certified forging procedures and dies.</p> <ul style="list-style-type: none"> <li>a. Prior to contract award, the detail part bidder will provide certification, from the forging source to the government, that the certified dies and forging procedures are available and that the forging source has an agreement with the detail part bidder to provide forgings for his use in the event that he is the successful bidder.</li> <li>b. Prior to production, forging lot qualification will be accomplished as specified on the forging drawing, and SAE AMS-F-7190. The contractor will assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment to the government.</li> </ul> <p>12. FORGING SOURCE, CONTROL AND LOCATION OF DIES:</p> <ul style="list-style-type: none"> <li>a. Forging drawings: Lockheed Mart. 4G13781-991A<br/>Die number is unknown.</li> <li>b. Control of forging process: Bendix Brake and Strut<br/>3520 Westmoor St.<br/>P.O. Box 10<br/>South Bend IN</li> <li>c. Location os forging dies: Steel Improvement<br/>Div. of SIFCO<br/>E. 64th. Street<br/>Cleveland OH 44103</li> </ul> |  |                       |
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| <p>13. Material Review Board disposition:</p> <p>a. OO-ALC/LILE system engineering retains all rights to review and accept MRB dispositions prior to shipment of discrepant item. All deviations, minor and major, from the engineering drawing package will be submitted for MRB disposition.</p> <p>b. Prior to contract award, the contractor will certify to the government in writing full compliance with manuals, specifications, and standards called out and required for the manufacture of this contracted landing gear component/assembly. The contractor is responsible to completely search all required documents and fully understand the necessary requirements to manufacture the stated item. Any questions can be forwarded to this office OO-ALC/LILE</p> <p>14. The following specifications are not required for the manufacturer of this item.</p> <p>a. Static test X999, and DS 5025.</p> |  |           |
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Page 1 of 2 Pages

# INSTRUCTIONS FOR COMPLETING DD FORM 1423

(See DoD 5010.12M for detailed instructions.)

## FOR GOVERNMENT PERSONNEL

- Item A. Self-explanatory.
- Item B. Self-explanatory.
- Item C. Mark (X) appropriate category: TDP - Technical Data Package; TM - Technical Manual; Other - other category of data, such as 'Provisioning', 'Configuration Management', etc.
- Item D. Enter name of system/item being acquired that data will
- Item E. Self-explanatory (to be filled in after contract award).
- Item F. Self-explanatory (to be filled in after contract award).
- Item G. Signature of preparer.
- Item H. Date CDRL was prepared.
- Item I. Signature of CDRL approval authority.
- Item J. Date CDRL was approved.
- Item 1. See DoD FAR Supplement Subpart 4.71 for proper numbering.
- Item 2. Enter title as it appears on data acquisition document cited in Item 4.
- Item 3. Enter subtitle of data item for further definition of data item (optional entry).
- Item 4. Enter Data Item Description (DID) number, military specification number, or military standard number listed in DoD 5010.12-L (AMSDL), or one-time DID number, that defines data content and format requirements.
- Item 5. Enter reference to tasking in contract that generates requirement for the data item (e.g. Statement of Work paragraph number).
- Item 6. Enter technical office responsible for ensuring adequacy of the data item.
- Item 7. Specify requirement for inspection/acceptance of the data item by the Government.
- Item 8. Specify requirement for approval of a draft before preparation of the final data item.
- Item 9. For technical data, specify requirement for contractor to mark the appropriate distribution statement on the data (ref DoDD 5230.24).
- Item 10. Specify number of times data items are to be delivered.
- Item 11. Specify as-of date of data item, when applicable.
- Item 12. Specify when first submittal is required.
- Item 13. Specify when subsequent submittals are required, when applicable.
- Item 14. Enter addresses and number of draft/final copies to be delivered to each addressee. Explain reproducible copies in Item 16.
- Item 15. Enter total number of draft/final copies to be delivered.
- Item 16. Use for additional/clarifying information for items 1 through 15. Examples are: Tailoring of documents cited in Item 4; Clarification of submittal dates in Items 12 and 13; Explanation of reproducible copies in Item 14; Desired medium for delivery of the data item.

## FOR THE CONTRACTOR

Item 17. Specify appropriate price group from one of the following groups of effort in developing estimated prices for each data item listed on the DD Form 1423.

a. Group I. Definition - Data which is not otherwise essential to the contractor's performance of the primary contracted effort (production, development, testing and administration) but which is required by DD Form 1423.

Estimated Price - Costs to be included under Group I are those applicable to preparing and assembling the data item in conformance with Government requirements, and the administration and other expenses related to reproducing and delivering such data items to the Government.

b. Group II. Definition - Data which is essential to the performance of the primary contracted effort but the contractor is required to perform additional work to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, or quality of the data item.

Estimated Price - Costs to be included under Group II are those incurred over and above the cost of the essential data item without conforming to Government requirements, and the administrative and other expenses related to reproducing and delivering such data item to the Government.

c. Group III. Definition - Data which the contractor must develop for his internal use in performance of the primary contracted effort and does not require any substantial change to conform to Government requirements with regard to depth of content, format, frequency of submittal, preparation, control, and quality of the data item.

Estimated Price - Costs to be included under Group III are the administrative and other expenses related to reproducing and delivering such data item to the Government.

d. Group IV. Definition - Data which is developed by the contractor as part of his normal operating procedures and his effort in supplying these data to the Government is minimal.

Estimated Price - Group IV items should normally be shown on the DD Form 1423 at no cost.

Item 18. For each data item, enter an amount equal to that portion of the total price which is estimated to be attributable to the production or development for the Government of that item of data. These estimated data prices shall be developed only from those costs which will be incurred as a direct result of the requirement to supply data, over and above those costs which would otherwise be incurred in performance of the contract if no data were required. The estimated data prices shall not include any amount for rights in data. The Government's right to use data shall be governed by the pertinent provisions of the contract.

**SOURCE QUALIFICATION REQUIREMENTS**  
(PL98-525, SECTION 2319)

STOCK NR (NSN) 1620-00-115-7389  
NOUN: Collar Assembly Lock Actuator

PART NUMBER (P/N) 4G11447-101A  
AIRCRAFT: C-5

**SECTION C**

**QUALIFICATION REQUIREMENTS THAT MUST BE SATISFIED TO BECOME A QUALIFIED SOURCE:**

1. Because of the need for uninterrupted item support to military aircraft systems while keeping with the requirements of PL 98-525, the current acquisition need not and generally will not be delayed to provide an offeror an opportunity to qualify. Normal acquisition practices at OO-ALC should preclude the denial of opportunity to any interested offeror.
2. The offeror must provide a pre-contract award qualification article, which meets the requirements of the engineering drawings, material specifications, and process specifications. However, successful completion of the qualification testing does not guarantee any contract award. If the offeror is deemed qualified and awarded the contract, a post-contract award first article exhibit may be required to verify production capability.
3. The qualification article will be subjected to form, fit, and function verification as well as required testing to assure compliance with data list and other applicable procurement criteria. The qualification article shall demonstrate full compatibility and comparability with existing parts.
4. The required materials will be procured from a qualified source and shall meet the requirements of their respective specifications. The offeror will assure that the supplier has accomplished this and shall submit certified documentation of accomplishment of the above requirements to the purchaser along with the pre-contract award qualification article.
5. The required forgings shall be procured from the qualified forging source using the original certified forging procedures and dies. Forging material and lot qualifications shall be accomplished as required in the specified forging drawing, P/N 4G11447-101A and specification MIL-F-7190. The offeror shall assure that this is or has been accomplished by the forging source and will submit certified documentation of accomplishment of the above requirements to the government along with the pre-contract award qualification article.
6. The qualification article once submitted will become subject to such testing as deemed necessary by the U.S. Government to prove that the article meets all dimensional, processing and functional requirements. Such testing may result in the destruction of the article. Following completion of necessary testing and evaluation, the article no matter what its condition shall be returned to the contractor or disposed of at his discretion and direction whether it was found acceptable or not.
7. Form verification: The U.S. Government's Quality Verification Center (QVC) will be used to insure compliance with the dimensional requirements of the article. Material and processing compliance will also be verified as required.
8. Fit/function verification: Existing components and government test stands and fixtures will be utilized to verify physical interface and functional performance of articles.
9. Testing for material and process compliance.
  - (a) Material analysis
  - (b) Heat treat
  - (c) Grinding
  - (d) Plating
  - (e) Finish
  - (f) Grain flow
  - (g) Other



**SOURCE QUALIFICATION REQUIREMENTS**  
(PL98-525, SECTION 2319)

STOCK NR (NSN) 1620-00-115-7389

PART NUMBER (P/N) 4G11447-101A

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10. Remarks:

- a. Organic verification capabilities exist at OO-ALC.
- b. Testing requirements outside organic capabilities will be contracted out.

11. The estimated cost of government testing and evaluation is \$1000.

12. Maximum time for testing of the qualification article will not exceed 30 days from receipt at testing agency.

**SECTION D**

**QUALIFICATION WAIVER REQUIREMENTS.**

1. An offerer who has had previous experience in the manufacture and qualification of items, which can be correlated with this product, may apply to the design control authority at OO-ALC for a waiver of the above stated qualification requirements.

- a. The qualification waiver criteria utilized by the design control authority to perform a qualification analysis are available upon request. The qualification waiver criteria may be used as a guide in preparing the offerer's written input to the design control authority.

- b. The burden of proof for written inputs is on the offerer. The design control authority will not pursue authenticity verification of claims made by the offerer of product manufacturing experience with other Government or non-Government agencies. Unsubstantiated claims will not be considered in the waiver analysis process.

- c. This waiver will be granted if and only if the design control authority (LILE) can establish the qualifications of the offerer through the evaluation of written inputs from the offerer or from previous knowledge of the offerer's capabilities or from previous experience with the offerer on similar item acquisitions. If there is any doubt about the offerer's capability, the offerer will be required to submit a pre-qualification article. There is no guarantee of qualification by similarity. LILE reserves the right to require a pre-qualification article of all offerers.

2. The current acquisition need not and will not be delayed in order to provide an offerer with an opportunity to meet the requirements for qualification waiver.

3. Maximum time for approval of qualification by similarity will not exceed 15 days.